FINAL REPORT

A POPULATION SURVEY IN VIET NAM

THE SIMULMATICS CORPORATION
Cambridge/New York/Washington

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This Research was supported by the Advanced Research Projects Agency, Washington, D.C. and was monitored by the Army Research Office under Contract No. DA 49-092-ARO-146. The views, conclusions, or recommendations expressed in this document do not necessarily reflect the official views or policies of the Department of Defense.

SPONSORED BY

Advanced Research Projects Agency
Washington, D.C.
ARPA order No. 861

SUBMITTED BY

The Simulmatics Corporation

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Cambridge, Massachusetts
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SIM/CAM/10/67

31 March 1967

SECTION ONE

THE DEMOGRAPHIC SITUATION IN THE REPUBLIC OF VIET NAM

1. 0 INTRODUCTION

Knowledge of the basic population parameters is indispensable for an investigation of economic, social, political, or military problems that are affected by demographic phenomena. The following pages present a summary of a study aimed at establishing such parameters for the Republic of Viet Nam.

The overwhelming conclusion that emerges is that the existing factual information on the South Vietnamese population is grossly deficient and that efforts to generate new basic data are urgently needed. Pleas for additional information are of course routinely made by any investigator. It should be emphasized therefore that Viet Nam's position as a terra incognita is indeed unique, even by Asian standards. Apart from the fact that demographic information tends to become obsolete with particular rapidity in time of war, our knowledge of the prewar demographic situation itself is severely limited. South Viet Nam is the only country in Asia besides Afganistan that has never had at least one national census.*

The three relatively large-scale statistical operations that were conducted in 1921, 1936, and 1943, which are often referred to in Vietnamese statistical publications as "censuses", were in reality simple head-counts, accomplished by collecting estimates from provincial chiefs who obtained their figures by means of summary questionnaires addressed to local administrators.

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*A few small population units have been enumerated, but this doesn't constitute even a significant fraction of a national census.

Such "censuses" are notoriously unreliable. They do not contain information on the internal structure and composition of the population, which is indispensable for an evaluation of their quality.

Under these circumstances the investigator is forced to rely on limited and fragmentary pieces of data. Since there exist no standard methods of analysis to treat such data, various unorthodox approaches had to be explored. Many of these approaches led to blind alleys.* It is assumed that a detailed technical explanation of these efforts would be of a purely methodological interest hence not suited to the character of this report. Therefore, in the discussion that follows only brief comments will be given, indicating the general nature of the methods by which the various estimates were derived. Throughout the exposition the emphasis will be rather on the positive findings obtained, including naturally an indication of the degrees of reliability of the various estimates and of the basic data that underlie them.

The report is divided into seven sections. The first section indicates the basic statistical sources used in the analysis. The following five sections survey the results of the investigation

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*The paucity of hard statistical data led us to undertake a systematic survey not only of the primary statistical sources but also to examine the existing literature on the population of Viet Nam interpreted in the broadest sense. We examined works treating primarily ethnographic, anthropological or geographic matters, including also the literature published during the colonial period by French authors. Numerous commentaries concerning the demography of Viet Nam were indeed found in such works but they contained practically no information that was usable. The level of demographic sophistication in the literature was very low. In the texts (even of "official" statistical reports) patently absurd demographic magnitudes are routinely presented without any indication of awareness that such magnitudes cannot conceivably reflect reality.

concerning the major topics for which estimates are required for a basic demographic description, namely, population size, population structure, mortality, fertility, and population growth. The last section summarizes some of the implications of the results obtained.

2.0 SOURCES

This study is based on an analysis of the existing raw data as published in various Vietnamese goverment publications during the post-World War II period, without reference to any existing commentaries concerning these data. Since the number of official statistical publications is limited, no specific reference will be given to exact sources whenever various data are quoted. Unless indicated otherwise, raw data used in this report are taken from the following publications of the Vietnamese National Institute of Statistics:

1. Statistical Yearbook of Viet Nam. 10 Volumes, each covering one or two years, 1951 to 1965.
2. Enquetes Demographiques au Viet Nam en 1958.
3. Enquete Demographique a Saigon en 1962.
4. Vital Statistics, Summary Reports, 1961, 1962, 1963, 1964.
5. Vital Statistics, 1959.
6. Vital Statistics, Special Studies, 1962 and 1963.
7. Table de Mortalite pour Saigon-Cholon et ses Faubourgs, 1958-1959.
8. Recensement Pilote de la Province de Phuoc-Tuy, 1959.

Other sources of a general statistical nature were also examined (e.g. the series of the Monthly Bulletin of Statistics for Viet Nam) but yielded no useful data beyond those contained in the publications listed above.

Dr. Paul Demeny was the Senior Scientist who performed the analysis and wrote this report. Col. J. D. Yates of the Simulmatics Corporation was Project Coordinator and Field Investigator who

obtained the source material in Saigon, throuth the cooperation of the National Insitute of Statistics and the Ministry of Health.

3.0 POPULATION SIZE

3.1 Gross Estimates

Official estimates concerning the absolute size of the population of South Viet Nam are availabe for each year since the 1954 Geneva Accords. The 1954 estimate set the population at somewhat over 9.9 million. This figure was based on the administrative count of 1943 which is thus far the most complete enumeration existing for South Viet Nam. The updating of the 1943 figure was carried out by the Statistical Institute by estimating the natural movement of the population during the intervening period; an operation that was exceedingly difficult in view of the turbulences between 1943 and 1954 hence necessarily introduces an important element of uncertainty into the estimate for 1954.

A further source of possible bias originates in the difficulty of estimating the size of the massive migratory stream from the North following the Geneva agreements. The number of refugees is assumed to be between .9 and 1.2 millions. * Estimates of the total population for 1955 and subsequent years exceed 12 million and incorporate a larger correction than warranted by immigration alone. The upward revision obviously reflects a change of mind on the part of the Statistical Institute concerning natural increase

*Estimates of the migration to North Viet Nam at that time put the total figure at 0.1 million.

between 1943 and 1955; in itself this indicates the high degree of uncertainty that necessarily surrounds any such estimate.

A similar unexplained jump in the estimated population size occurs between 1958 and 1959. The figures for these two years are 12.93 million and 13.79 million respectively. This sharp rise of 6.6 per cent is more than twice as large an increase as could conceivably be explained by natural increase only. The estimates for the past six years, on the other hand, form an orderly and not implausible series: (in thousands, mid-year estimates)

1959	13,789
1960	14,072
1961	14,494
1962	14,929
1963	15,317
1964	15,715
1965	16,12[illegible]

While the rough order of magnitude represented by these estimates is undoubtedly correct, to claim that these figures are valid to the nearest million would amount to placing excessive confidence in the methods by which they were obtained. Until 1962 the figures for the country as a whole are the sums of provincial estimates and are therefore vulnerable to the same factor that may bias the provincial figures, namely, to errors in the population registers.

3.2 Errors

The errors in registering births and deaths, as will be argued below, are in the same direction; hence there is some tendency to have compensating errors as far as the natural increase component of population growth is concerned. No such statement can be made, however, with respect to migration: in fact, registering in-migrants

may be considerably more complete than registration of out-migrants. If so, a systematic upward bias must affect the population in all areas in which uncontrolled migration was strong in the past years. Obviously, in the absence of new enumeration the validity of this hypothesis cannot be easily put to a test. That it has some relevance is confirmed by the discrepancies between the estimated population figures and the actual figures in those few instances when the latter could be established on the basis of the independent sample surveys taken in 1958-59.

3.3 Saigon Population Estimates

Such a discrepancy was particularly startling in the case of Saigon, the area probably most affected by migration, including temporary migration. In 1958, just before the survey was undertaken, the official estimate for the population of the capital city was 1.78 million. In the following year, on the basis of the survey result this estimate had to be revised downwards to 1.22 million. In other words, on the basis of the population registers Saigon's population was overestimated by more than half a million persons, i.e. by some 45 per cent. It is not suggested that similarly gross errors may be revealed in the estimates for the country as a whole, if it would be possible to conduct a survey for all South Viet Nam. Nevertheless, the fact that a bias of such magnitude could have affected the population estimate for the capital city, where administrative efficiency is presumably higher than in the rest of the country, does shed light on the dubious quality of the population registers.

Saigon's case was to a lesser extent duplicated in a few

provincial cities where in 1958-59 a new enumeration of the population was possible. These surveys revealed that the population of Hue, Dalat, Nha Trang and Can Tho was at least 10 per cent smaller than estimated earlier from the population registers. The fact that the error is smaller than in the capital city is explained by the lesser importance of migration as a factor of population increase. It is likely that this consideration is even more relevant for the rural areas where the role of natural increase dominates in setting population figures. Since natural increase is apt to be underestimated on the basis of population registers, it is impossible to arrive at any conclusion concerning the direction of the overall bias for the country as a whole.

3.4 Recent Population Size Estimates

The foregoing discussion has immediate relevance only to the population estimates up to 1962. From that year on, because of the increasing number of provinces that could not supply any information on births, deaths, and migration, the total population estimate for the country was simply obtained by assuming a 2.6 per cent annual increase. This, of course, explains the orderliness of the time series shown above for the 1962-65 period. For obtaining provincial or city figures this method is wholly unacceptable, hence, whenever such figures are available they are based on the population registers and consequently subject to the biases outlined above. In sum, one must conclude that the statistical information concerning the absolute size of the population can at best be accepted in Viet Nam as a rough approximation, and estimates

for smaller population units, such as provinces* and cities, should be looked upon with an even greater degree of scepticism.

Nevertheless it is relevant, and to some extent encouraging to note in this context that when the uncertainty concerning the population size of North Viet Nam has been eliminated by a complete population census conducted in that country in 1960 the results of that count were in very close agreement with the earlier estimates. Since the statistical systems of the two countries are closely similar, this circumstance tends to suggest some confidence in the figures for South Viet Nam as well.

4.0 POPULATION COMPOSITION

A precise knowledge of total population size is for most purposes less valuable than knowledge of the structure of the population. Apart from the obvious intrinsic interest in such phenomena, as for instance, age and sex distribution, the knowledge of these characteristics in the absence of reliable vital statistics could serve as a basis for estimating other population parameters as well, notably levels of fertility. Due to the lack of a census, however, data on the composition of the population of South Viet Nam are extremely deficient.

Some relevant magnitudes may, however be suggested. It appears to be well established, for instance, that the urban population's share within the total is less than 20 per cent. The

* Any attempt to trace population size trends over time by province leads to hopeless confusion and frustration. There have been 29 major changes in the size and shapes of the various provinces and a few new ones have been formed since the Geneva accords. A province will retain the same name, but population figures for that province do not relate to the identical geographical unit each year.

ethnic composition of the population is characterized by the predominance of a highly homogeneous Vietnamese element that constitutes over 90 per cent of the total. The diverse mountain tribes (known under the general name of Mois) number somewhat over one-half million persons. Not counting the Chinese population, which is important only in a few urban centers, in particular in Saigon (Cholon), the only other sizeable population in the country which is ethnically non-Vietnamese is the Cambodians (Khmers), a minority group consisting of about 400 thousand people.

4.1 Age and Sex Distribution

As far as age and sex composition of the population is concerned, not even rough quantitative estimates are supplied by the basic data, except for the urban populations mentioned earlier and for the urban population of Gia Dinh province. Age and sex distributions thus are available for some 12-13 per cent of the total estimated population of the country in 1959. This is a sizeable group; unfortunately it is also a group that may differ in its structure from the vast rural majority of the country. Therefore, without additional information, it cannot serve as a basis for generalizations for the country as a whole.

4.2 The Phuoc Tuy Sample Survey

Under these circumstances it is of great importance that an experimental sample survey was also conducted in 1959 in a predominantly rural area, namely in the (Southern) province of Phuoc Tuy: an area with a total population of some 141,000 persons,

almost entirely Vietnamese in its etnic compo .tion, predominantly agricultural. Despite the fact that this province contains less than 1.5 per cent of the total rural population of the country, the significance of this provincial survey cannot be overemphasized: it provides the first and thus far only body of census-type data ever collected in South Viet Nam from which legitimate, if cautious, generalizations are possible for the majority of the Vietnamese population. A summary comparison of the 1958-59 survey data on age distribution is given in Table 1.

Table 1. Percentage distribution of the total population by age in Saigon, in various provincial cities, and in the provin.e of Phuoc Tuy. 1958-59.

Age Group	Saigon	Hue	Gia Dinh	Can Tho	Nha Trang	Dalat	Phuoc Tuy
0-14	42.4	45.6	46.4	43.5	46.5	49.1	43.3
15-59	54.2	49.0	49.2	51.5	51.1	47.1	51.5
60 and over	3.4	5.4	4.4	5.0	2.4	3.8	5.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The remarkable feature of Table 1 is the almost complete absence of any definite rural-urban differential with respect to age composition. In fact Saigon is the only city that shows divergence in its age structure from the rural age structure represented by the data for Phuoc Tuy in the expected direction, namely by having a smaller proportion of persons in the young age groups and an inflated proportion in the labor force age groups. Even this difference is partly spurious since, due to the somewhat earlier time of the Saigon Survey

in 1958 compared to the others (June 23-July 10), and to an age classification based on year of birth rather than age at last birthday, a correction is needed for the Saigon data which would bring the age distribution even closer to the distribution for the other areas. Only to a slight extent can the rural-urban similarity displayed in Table I be explained by differential mortality, specifically by a higher life expectancy in Saigon (or in other urban areas) than in Phuoc Tuy.

4.3 Some Explanations

The basic similarity, noted above, must be explained by, and supplies strong indirect support for, three general propositions:

(1) Migrants into the cities, and especially to Saigon, are not a select group with strongly deviant demographic characteristics as is commonly the case with migration that is induced primarily by economic factors, notably by differential job opportunities in the cities, but constitute a rather representative cross-section of the rural population with respect to age composition and presumably other demographic characteristics. Notably, the influx into the cities must be typically a migration of whole families rather than independent individuals.

(2) The fertility of city dwellers (not just of recent migrants but of the city population as a whole) cannot differ appreciably from the fertility of the rural population.

(3) Once settled in the city, immigrants tend to preserve their original fertility behavior.

It is to be noted that none of these propositions hold true for Western populations in a phase of their development comparable to that of the Viet Nam of today.

A more thorough comparison of the detailed age distributions

by sex lends further support to the findings just outlined. The sex ratios follow qualitatively the same pattern in all the six areas. There is moderate excess of males up to age 15 or 20; i.e. in the age groups where the sex ratio of the population is still under the dominant influence of the sex ratio at birth, modified only to a relatively small degree by sex-differential mortality in childhood. In the early adult ages there is a sudden and drastic reversal of sex ratios indicating a huge excess of females. Near-equality is re-established in the 40 to 59 group, followed, once again, by a strong excess of females beyond age 60. A comparison of summary sex ratios for Phuoc Tuy and Saigon is shown in Table 2. Substitution of any of the other urban age-sex distributions for those of Saigon would give essentially the same picture.

Table 2. Male and female population and sex ratios (number of males for 100 females) for Saigon and Phuoc Tuy, by age. 1958-59. (Population in thousands).

	SAIGON			PHUOC TUY		
Age group	Males	Females	Sex ratio	Males	Females	Sex ratio
0 - 19	321.4	314.5	102.2	37.71	36.22	104.1
20 - 39	164.7	192.4	85.6	16.53	20.24	81.7
40 - 59	92.2	92.8	99.3	11.67	11.65	100.2
60 & over	14.9	26.8	55.6	3.07	4.31	71.2
Total Population	593.1	626.4	94.7	68.98	72.42	95.2

Table 2 is a good illustration of the advantage of having access to data on various sub-populations within a given total. If one had access only to urban age-sex distributions the excess female population in the early adult ages could formally be attributed to a genuine effect of sex-differential migration: such an argument could be countered only on the basis of impressionistic plausibility, but could not be definitely refuted. On the other hand the quasi-identical sex ratios found in Phuoc Tuy for all practical purposes supply a conclusive refutation of such an assumption.

4.4 Shortage of Young Adult Males

It must be admitted, however, that the elimination of differential migration as a possible factor explaining the shortage of males in the young adult ages still leaves room for alternative explanations. Specifically, two such explanations may be considered: (a) losses of young adult males due to military activities (a real phenomenon), and; (b) differential under-reporting of males in the age groups subject to draft into military service (a statistical phenomenon). The presence or absence of the latter effect could be detected only if successive surveys of the same population were taken at different points of time, permitting comparisons of stocks of real cohorts. Although a second population survey is available for Saigon its value for the issue at hand is reduced by the relatively short interval that has elapsed between the two counts. Nevertheless the apparent duplication of the pattern of sex ratios, cohort by cohort, in the 1962 survey tends to indicate that the

low sex ratios among young adults in 1958-59 reflect differential military (and related) losses. If the observed 1958-59 sex ratios are generalized for the country as a whole it is possible to calculate an estimate of the total differential military losses suffered by Vietnamese males born between 1920 and 1940. These losses appear to be in the range of 350 to 400 thousand persons.

This estimate may be substantially below the actual losses prior to 1958-59 (much of which would have presumably occured prior to 1955) since it reflects only excess male mortality and is limited to the twenty most affected birth cohorts. On the other hand, at least part of the behavior of the sex ratios may be due to simple deficiencies of reporting. To positively rule out differential underenumeration of adult males in the prime military service-age groups in 1958-59 would require the collection of new data on age distribution.

5.0 MORTALITY

5.1 General Mortality Estimates

In the absence of reliable death registration statistics, mortality in a human population can be estimated by one or more of the following three approaches:

(a) Use of census survival ratios. When a closed population is enumerated at least twice by age, and when these successive enumerations are separated by at least 5 years, mortality (except early childhood mortality) can be calculated from comparisons of sizes of birth cohorts at various points in time. In Viet Nam only Saigon's population was enumerated more than once, including age distributions. However, the population is so far from being

closed, i.e. is so strongly affected by migration, that this approach is totally unworkable even for Saigon.

(b) If age distribution data are available from at least one census (survey); if the growth rate of the population is known or can be estimated and, finally, if past fertility and mortality have been approximately constant (i.e. if the population is well approximated by a so-called stable population model) then the particular combination of the observed age distribution and growth rate within pre-calculated networks of model stable populations is associated with only a rather narrow range of mortality levels. That range under the stated circumstances supplies an estimate of the mortality of the actual population. However in the preceding section age and sex distributions were presented the examination of which conclusively proves that - - due to shocks it has suffered during the past few decades - - the population is far from being in the stable state. As a consequence, techniques of estimation based on this model could not be applied for estimating mortality in Viet Nam, even if the other preconditions existed.

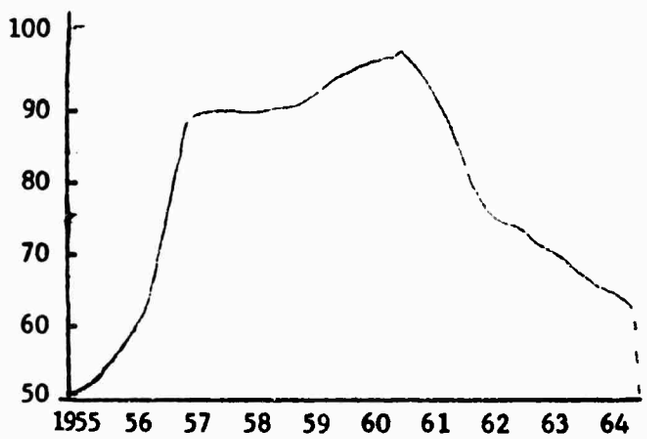
(c) Information collected in a census of survey from women in the child-bearing ages concerning the proportion of their children that survive supplies a basis for a somewhat complicated computational procedure, the end result of which is an estimate of the level of childhood mortality. Given such an estimate the general level of mortality may be approximated by use of an appropriate model life table since intercorrelations of mortalities at various ages are high in human populations. Data on

child survivorship are not available for Viet Nam.*

5.2 Registered Deaths

Given the fact that mortality estimates cannot be obtained from survey data as they exist at present in Viet Nam, the only remaining possibility is to re-examine the feasibility of utilizing vital statistics data - - an approach that is less than optimal in view of the obviously low quality of Vietnamese vital registration. The total numbers of deaths registered in the country as a whole during the 10-year period from 1955 to 1964 were as follows:

Year	Number of deaths (In Thousands)
1955	50.2
1956	57.6
1957	86.6
1958	88.0
1959	91.0
1960	92.4
1961	76.9
1962	70.1
1963	66.7
1964	61.7



REGISTERED DEATHS

* In the Phuoc Tuy sample survey of 1959 these data were collected. If the results were available, they would provide a crucial missing link for connecting various pieces of evidence in Viet Nam's demographic puzzle. Regrettably, the answers concerning child survival were not processed and were discarded, apparently because of lack of awareness of the potential uses of such data. As a result this potentially valuable information concerning mortality levels before the current war has been irrevocably lost.

A detailed examination of the available provincial data confirms the impression inevitably imparted by the above series; namely that neither the sharp rise in the number of registered deaths during the first five years of the 10-year period shown, nor the sharp decline thereafter, represent a genuine change in mortality , but, rather, are statistical artifacts that reflect changing completeness of enumeration. Or, more cautiously, it can be said that whatever was the direction of the actual trend it is not manifest in the above series because the trend is far overshadowed by errors of observation.

5.3 Incomplete Registration Coverage

If one could estimate the relative deficiency of coverage in successive years, the actual time trend - - or, optimally, even the absolute level - - of the true mortality could be estimated. However, a rough estimation of the completeness of registration coverage is possible only in terms of the number of provinces reporting. Thus, in 1959 out of 40 provinces 4 did not report vital statistics data. In 1964 out of 50 provinces the number of non-reporting provinces was 13. By weighting each province with the estimated size of its population one can obtain an index of the degree of completeness of the coverage by vital registration in terms of the percentage of the total population covered. In 1955 this index was at about 60 per cent; in 1959 it was about 97 per cent, thereafter declining again sharply. But such figures tend to imply that the reporting provinces report fully. This is not true. There was only sporadic reporting in many of the

provinces where a significant percentage of the population was covered.

How does one make judgments about the possible completeness of reporting? Ordinarily this cannot be done without access to some additional information concerning either the true level of mortality or the quality of registration itself. One important assumption is required: that the data themselves are not grossly deficient, i.e. that they are all within a broad "plausible" range. Unfortunately, Vietnamese vital registration data are grossly deficient and do not fit in the plausible range. Since registration in the years preceding 1959 and in the years following 1960 was clearly less complete than it was in 1959 (no detailed provincial data are available for the equally good registration year of 1960) this assertion may be demonstrated with a focus on 1959 only.

5.4 Implausible Data

The demonstration of the deficient character of Vietnamese vital registration data rests on a notion of what constitutes a "plausible" level of mortality for Viet Nam. It would not be permissible to assume what the actual level is and then reject data that are inconsistent with the postulated level. This would constitute a case of circular reasoning. It would be always incorrect to reject reported data on the sole basis that they show "excessively high" mortality since very high rates of death are clearly in the domain of the possible. The reverse proposition, however, is not true: recorded mortality may be rejected as

demonstrably low since there is a quasi-biological lower limit for the death rates in any human population; a limit that can be determined once the rough age distribution is given. To estimate such a lower limit one may assume, for example, that age specific death rates in 1964 in Viet Nam were as low as are the age specific death rates in Sweden currently. (i.e. as low as ever recorded for any country), and then calculate the crude death rates for various Vietnamese provinces on this assumption. A slight indeterminacy is introduced in these calculations due to the fact that the Vietnamese provincial age distribution are not known save their general character. However, even the most cautious of the various alternative procedures that can be devised to cope with this problem leads to the conclusion that in about half of the Vietnamese provinces for which death statistics were reported, the crude death rates imply a lower level of mortality than the one prevailing in Sweden. Clearly, the mortality statistics for these provinces may be rejected without invoking any subjective judgment as to the true level of mortality.

5.5 Evaluation of Mortality Data

For evaluating the 1959 results a somewhat less absurdly implausible standard should be employed. Accordingly, it was assumed that any Vietnamese crude death rate which implies an expectation of life at birth (e_o) of more than 60 years should be rejected as patently under-reported. It is not difficult to defend such an assumption: in fact, it is most unlikely that e^o_o could have been nearly as high as 60 years anywhere in Viet Nam--

a country with low standards of medical care (about 15,000 persons per physician, and at least twice that many as far as the civilian population is concerned);* high endemicity of malaria and tuberculosis; inadequate hospital facilities, etc. Even in the lowest mortality areas within the country an $\mathring{e}_0$ value of 60 years can be considered exceedingly high for 1959. For purposes of an impressionable comparison some recent estimates of $\mathring{e}_0$ values for Asian populations may be given here. (Estimate for India by Coale and Demeny, estimates for other areas by United Nations):

Country	Year	$\mathring{e}_0$
India	1951-1961	37.1
Cambodia	1959	43.8
Philippines	1951-1955	47.5
Korea	1955-1960	52.5

The above comparisons suggest that setting $\mathring{e}_0$ as equal to 60 years leaves a comfortable margin of safety in testing the validity of the Vietnamese mortality reporting. The results of the test are as follows: Number of provinces: 40. Number of provinces reporting: 36. Number of provinces with clearly deficient reporting (i.e. implying $\mathring{e}_0$ values greater than 60 years): 32. Number of provinces reporting death rates that are not clearly deficient: 4. The negative phrasing is intentional: the latter 4 provinces are simply those where the death rate cannot be held to be impossible. The possibility that reporting is in fact quite deficient even in these provinces is not precluded.

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* There are more <u>civilian</u> Vietnamese doctors in France than in Viet Nam, according to an official in the Ministry of Health. He also stated that there was only one 500-bed hospital in Saigon to handle tuberculosis patients, whereas at least one out of every ten Vietnamese in Saigon was tubercular. (There is no indication how the latter information was estimated).

5.6 Confirming Evaluations

An examination of the quality of mortality statistics was also carried out following a completely different approach, namely by analyzing how far the sex ratios of the reported deaths by age are consistent with possible ranges of such ratios determined from empirical models of mortality. As is to be expected this method provides somewhat less clear-cut results than the test described above since it can detect under-reporting only if under-reporting differs by sex. In other words, if both male and female deaths are under-reported at each age by some arbitrary factor, this second test would not signal the presence of under-reporting in the data. Nevertheless, at least in Viet Nam, gross omissions in reporting deaths tend to be consistently greater for females than for males. Consequently, the analysis of the sex ratios in almost every instance gives further confirmation of the findings that gross under-reporting in fact has affected vital statistics in most Vietnamese provinces. It should be pointed out that application of the second test was not simply an operation of double-checking but was necessary to arrive at conclusive results. This is so because the first test's applicability depends on the assumption that the absolute size of the population (which enters into the calculation of crude death rates) is known; i.e. on an assumption that may be open to some justified attacks. No such assumption is needed in the case of the second test.

5.7 Refinement of Estimates

The results of the examination of the mortality statistics that emerge from the discussion up to this point are largely negative.

The question now arises whether it is possible to derive from the data for the four provinces that have passed the loose test of quality described above some more refined measure of mortality? The answer to such a question is a qualified "yes". The four provinces and their reported death rates (in 1959, for 1000 population) are as follows:

Saigon	9.7
Gia Dinh	10.0
Phuoc Tuy	14.1
Kon Tum	15.2

It will be recalled that for two of these four provinces -- i.e. for Saigon and for Phuoc Tuy -- we also have statistics on the age distribution of the population.* For these two provinces it is then possible to determine by a process of trial and error what level of mortality would produce precisely the same number of deaths as was reported in the vital statistics.

This procedure presupposes that a system of model like tables that appropriately describe the Vietnamese pattern of mortality can be found. Unfortunately, no positive identification of that pattern is possible until some direct reliable information on infant mortality becomes available. However, it can be argued that the most suitable models for the present purpose are the "West" model life tables among the Coale-Demeny models. The "West" tables incorporate and well describe the Taiwanese pattern of mortality. Thus crude death rates were calculated as weighted averages of the reported age distributions and of arbitrarily specified levels of "West" model life tables until a life table

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* Additional age distribution statistics are available only for the urban segment of the Gia Dinh province.

could be identified that produced exactly the same crude death rate as was the one reported. This procedure was applied for both sexes separately before merging the results into a single life table. The $\overset{o}{e}_o$ values estimated by this method for Saigon and Phuoc Tuy are as follows:

Saigon	56.2
Phuoc Tuy	52.0

As was stated earlier the validity of these results depend on the completeness of death registration. Further analysis of the structure of the mortality data for these two provinces has revealed an impressive degree of internal consistency that inspires confidence in the quality of the data and tends to bar the possibility of substantial under-reporting.

5.8 Infant Mortality

There is one exception to this statement in both provinces, revealed by a comparison between the reported number of deaths under age 1 on the one hand, and the reported number of all other deaths and the reported number of births, on the other hand. The comparison shows that infant mortality as recorded is excessively low in relation to the general level of mortality: this conclusion is inevitable no matter what model life table pattern is selected. Instead of the reported values of the probability of dying before reaching the first birthday (qo) which are .065 and .060 in Saigon and Phuoc Tuy, respectively, the actual values must be as a minimum .100 to .120 and may be as high as .190 to .210.

It is a startling, high upward adjustment to double or triple this kind of reported value. Confirmation of our estimate is

given, however, by yet another source: the statistics on the frequency of stillbirths. After 1950 the administration introduced a new and more detailed form for collecting vital statistics which (given an otherwise satisfactory level of completeness of reporting) tended to improve the quality of the data. This is demonstrated by the fact that in Phuoc Tuy following 1960 there was a great increase in the still birth rate, although not in the rate of infant mortality. In fact, between 1961 and 1964 stillbirth rates were consistently 3 to 5 times as high as were the reported infant mortality rates. (e.g. in 1964 the value of the reported q_0 was .030, while the number of stillbirths per 1000 live born babies was 148.2). Such a relation between these two measures is utterly impossible. Indeed the mechanism that results in such a distortion of reality is clear: birth registration is typically somewhat tardy, hence the many infants who die before their births are registered (often in the first hours or days of life) as stillbirths, if at all.

If death rates are now revised to incorporate a conservatively estimated "normal" relationship between infant mortality and the rest of the mortality schedule the implied expectations of life at birth are to be modified (downward-revised) as follows:

Saigon to about 52 years
Phuoc Tuy to about 48 years.

The modified crude death rates corresponding to the revised expectation of life figures are approximately 13 to 14 for Saigon and 17 to 18 for Phuoc Tuy. It may be suggested that these figures should be considered minimum estimates.

5.9 Uses of Indices of Mortality

A basic weakness of the above analysis is that it is limited to data taken from statistics related to not more than 10 per cent of the total Vietnamese population, since it was conclusively shown that vital statistics for the rest of the country are grossly under-reported and that there exists no basis by which the degree of under-reporting could be estimated. Efforts were undertaken, however, to squeeze out at least some information even from such grossly inadequate data. One approach that paid some dividends started from the assumption that under-reporting can be taken as uniform by age, apart from the reporting of infant deaths. If so, the age distribution of deaths over, say, age 5 is independent of the degree of completeness of reporting. Moreover, an index of the age distribution of deaths over age 5, can be translated to an index of mortality provided that (a) the general shape of the age distribution is known, and; (b) the pattern of mortality can be determined.

Condition (a) is fulfilled by the fragmentary direct evidence on age distribution plus the knowledge of the level of fertility (see next section) which is the basic determinant of the shape of age distribution. Condition (b) however, is not satisfied. Nevertheless, the pattern of mortality is not subject to appreciable changes over the short run, hence, even if absolute levels of mortality cannot be derived from some index of the age distribution of deaths, relative differences in the value of such indices, as for example, between different regions at the same point in time, or between different points in time for the same region, may still

provide useful estimates. Specifically, the following types of estimates could possibly be obtained (listed in an increasing order of difficulty):

(1) Direction (sense) of difference in mortality levels in interspatial comparisons.

(2) Direction of mortality change over time.

(3) Magnitude of mortality differences in interspatial comparisons.

(4) Magnitude of mortality changes over time.

Experimentation with various alternative indices of the age distribution of deaths over age 5 led to the selection of the ratio: "Deaths over age 65/ Deaths over age 5," as most suitable for the present purposes. These ratios were calculated for all years between 1959 and 1964, separately for the sexes, and for a large number of provinces. It was found, however, that sampling error on the provincial level is too high. The analysis was therefore limited to comparisons between the three major regions of the country and to comparisons over time for each of these regions. (However, because of diminishing coverage, for the Highlands only the data for 1959 were deemed to be worthy of examination.) The mechanics of the analysis may be best explained in connection with some actual figures. Values of the index "Deaths 65 and over/ Deaths 5 and over" in 1959 for the three major regions were as follows:

Region	Males	Females
South	.25	.27
Lowlands	.22	.22
Highlands	.17	.19

These figures clearly indicate that there exist substantial

differences in mortality between the regions: mortality is lowest in the South, highest in the mountainous regions, and intermediate in the lowlands of Central Viet Nam. To a less marked degree they also show differentials between males and females in the expected direction, i.e. an excess male mortality is indicated. How large are the differences in an absolute sense? This is less satisfactorily answered, although orders of magnitude are suggested by these data. The female indices shown above translate to the following values of $^{o}e_5$ (expectation of life at age five) under two assumptions as to the level of fertility (hence shape of the age distribution) expressed in terms of the Gross Reproduction Rate (GRR). Expectation of life at age five, in years:

Region	GRR = 3.0	GRR = 3.5
South	53.9	58.6
Lowlands	46.9	53.1
Highlands	40.5	48.3

The underlying computations incorporate the assumption of stability: this is formally incorrect but the distortion which is thereby introduced affects only the absolute level of the derived $^{o}e_5$'s, and not their relative standing. It is only the latter which is to be taken seriously in this particular estimation procedure. The results suggest that in terms of $^{o}e_5$ the differences between the South and the Highlands are very substantial: they appear to amount to 10 to 13 years. Note that no differences are apparent in the raw data themselves if these are accepted, at their face value.

As far as time trends are concerned the results of the analysis may be summarized in the following propositions: (a) For females

no appreciable changes in mortality may be detected between 1959 and 1964; regional differences between the South and the Lowlands are consistently maintained. (b) For males there is an unmistakable deterioration of male mortality for the South, but there exists no observable trend for the Lowlands until 1963 when a sudden change towards higher mortality seems to have materialized. (C) Quantification of the changes referred to in point (b) is not possible from age distribution of deaths alone.

6.0 FERTILITY

6.1 Registration Deficiencies

The discussion contained in the preceding section concerning the completeness of vital registration in Viet Nam greatly simplifies the exposition of the strategy that must necessarily be followed in attempting to estimate the level of fertility in that country. Specifically, on the basis of that discussion, it should be obvious that vital statistics data are even less helpful in deriving fertility estimates than in the analysis of mortality. This is so because under-reporting of births is not directly detectable from observing crude birth rates alone, as was the case with death rates. Unlike death rates, birth rates have a biologically determined upper limit and, again unlike death rates, extremely low birth rates are formally unobjectionable. Consequently, when the data suffer from under-reporting the existence of that bias cannot be easily proven form birth statistics alone. However, an analysis of provincial death rates in connection with reported crude birth rates shows that

there is a very high degree of intercorrelation between these two sets of indices. Since crude death rates are under-reported it follows from such a correlation that birth records must also be deficient. The point is well illustrated even by simply comparing the time trend of registered births with that of the registered deaths shown earlier. Births in thousands, by sex:

	Males	Females	Sex Ratio
1955	132.7	120.3	110.3
1956	154.9	136.3	113.7
1957	222.1	193.6	115.2
1958	233.6	200.9	116.3
1959	228.0	199.0	114.6
1960	211.2	188.4	112.1
1961	180.6	164.1	110.0
1962	167.6	151.0	111.0
1963	161.6	142.7	113.3
1964	161.7	148.4	109.0

As did death registration, birth registration improved in the late 1950's and deteriorated thereafter. However, registration was seriously deficient even when the relative peak of completeness was reached, around 1959. Apart from the correlation between the vital rates referred to above, the point is also illustrated by the reported sex ratio at birth as shown in the table. The sex ratio at birth for all practical purposes has a biological upper limit of about 107: a value appreciably exceeded in Viet Nam in all the 10 years for which the data are available. The explanation must be a differential under-reporting of girl babies.

6.2 Techniques of Estimation

Fortunately, the implications of the deficiency of birth

statistics are much less serious for estimating fertility than was the case with respect to death registration and mortality. This is so because fertility leaves a very strong imprint on the age distribution of the population, hence the available age distribution records can be exploited for deriving estimates of the level of fertility. It is true that to bring such estimates into sharp focus it would be necessary to know the precise level of mortality that has prevailed during the years immediately preceding the census from which the relevant age distributions are taken. But the knowledge of even an approximate level of mortality, such as obtained in the preceding section, is sufficient to give a fertility estimate defined by a not too wide interval.

The technique of estimation is fairly straightforward when stability of the population may be assumed. As was pointed out earlier, this is not the case in Viet Nam. Given this fact, the reported proportions under age 5 and age 10 may be used to estimate the number of births that have occured during the 5 or 10 year period prior to the census corresponding to specified assumptions on the level of mortality. The latter can be used to calculate population size at the midpoint of the five-year periods preceding the census by the method of reverse-projections. The ratio of the past births to the past average population supplies the estimate of the crude birth rate.

Consider for example the estimate of the female birth rate for the province of Phuoc Tuy. Reported proportions up to age 5 and up to age 10 in the female population were .181, and .32,

respectively. Even if it is assumed that mortality may be anywhere between $\overset{o}{e}_o = 40$ and $\overset{o}{e}_o = 60$, i.e. even if knowledge on the true level of mortality is extremely inadequate, calculations show that the average female birth rate is the province during the 5 years preceding the survey could not have been higher than 49 per 1000 or lower than 43 per 1000. The corresponding range for the 10 year period before the survey is from 41 to 1000 to 48 per 1000. If the mortality estimate derived in the preceding section is accepted, the female birth rate is pinpointed as 46 per 1000. Since the number of male births is tied to the number of female births by a ratio which may vary only very little from 1.05, and since the proportion of females in Phuoc Tuy is .512, the overall birth rate (i.e. the birth rate of the whole population without distinction of sex) may be calculated as 46 X .512 (1. + 1.05) = 48.3. Estimates derived by analogous procedures for some of the city populations for which age distributions are available give the following results. (It was assumed that $\overset{o}{e}_o$ for these populations is the same as that estimated for Saigon, i.e. approximately 52 years. The elasticity of the birth rate estimates with respect to mortality was already illustrated by the example of Phuoc Tuy above.)

City	Birth Rate (over-all)
Saigon	46.5
Hue	44.3
Gia Dinh	51.9
Can Tho	43.9
Nha Trang	48.2

Due to small sample sizes estimates for cities other than

Saigon may contain not negligible sampling errors, quite apart from any uncertainty introduced by the approximate nature of the underlying mortality estimates and, possibly, by errors in age reporting that may affect the proportion under age 10 as shown by the surveys. Even with these reservations it is obvious that Vietnamese fertility is very high -- or rather was very high in the 1950's -- and differences between rural and urban birth rates are not significant.

It should be pointed out that, just as crude death rates, crude birth rates reflect not only the level of fertility but also the age composition of the population. It is desirable, therefore, to derive a measure of fertility which is not subject to the latter influence, hence is more suitable for comparisons, particularly for comparisons with non-Vietnamese populations whose age distribution may be quite different. Such a "pure" fertility measure is the so-called Gross Reproduction Rate which shows the number of girl babies per woman that would be born on the average in a cohort of women who lived through the child-bearing ages subject to the fertility rates underlying the crude birth rate. Calculation of a GRR assumes that birth statistics are available according to age of the mother. However, an andequate indirect procedure may eliminate this need, provided that the prevalence of birth control in the population in question is low, which certainly is the case in Viet Nam. This indirect procedure requires statistics by marital status: such tabulations are available for all 1958-1959 surveys. Given the number of married

females and an empirical standard schedule of age-specific marital fertility rates of a population with no practice of birth control the number of girl babies that would be born in the population, assuming a Gross Reproduction Rate of unity, can be calculated. Dividing this hypothetical number into the actual number of female births (estimated from the birth rate derived earlier from age distribution measures) supplies the desired estimate of the GRR. Applying the sex ratio at birth to this estimate one may obtain an estimate of the so called Total Fertility: the total number of children that would be born on the average to each woman by the end of the childbearing period assuming the continued maintenance of the fertility conditions that are to be measured.

The results of such calculations give the following Gross Reproduction Rates and Total Fertility Rates for Phuoc Tuy province and for the urban populations referred to above. For purposes of comparison estimates of the same measures for some non-Vietnamese populations are also cited.

	Gross Reproduction Rate	Total Fertility Rate
Phuoc Tuy	3.33	6.83
Saigon	3.12	6.40
Hue	3.10	6.36
Gia Dinh	3.37	6.91
Can Tho	2.99	6.13
Nha Trang	3.39	6.95
Canbodia (1959)	3.3	6.77
Philippines (1960)	3.5	7.18
Korea (1960)	3.1	6.36
United States (1962)	1.70	3.49
Japan (1962)	0.95	1.95
Hungary (1963)	0.88	1.80

It should be emphasized once again that the estimates for the Vietnamese populations characterize the situation in the 1950's and cannot be taken as proper indicators of the level of fertility since 1960 without additional supporting evidence. No such evidence is available at present. As was pointed out earlier the number of registered births showed a steady decline since 1960. This is attributable basically to the deterioration of the registration system but naturally may, to some extent, reflect a real phenomenon.

7.0 POPULATION GROWTH

Since no closed population has been enumerated more than once by census or a survey there exists no direct measure of population growth for Viet Nam. Growth must therefore be estimated as a difference between estimated birth and death rates. The strengths and weaknesses of such a measure are implicit in the discussion of the underlying mortality and fertility estimates presented in the two preceding sections. It should suffice to reiterate here that two sets of problems must be distinguished in evaluating the estimate of the rate of increase. The first concerns the validity of the birth and death rates within their narrow frame of reference, i.e as they relate to the province of Phuoc Tuy, to the city of Saigon, and to other urban areas. One may be confident that the errors committed in this respect are not major and the estimates are stronger than the official figures for the same areas.

The second set of problems is centered around the question whether results for these small populations can be generalized for Viet Nam as a whole and within what margins of error. No satisfactory answer can be given to these questions. However, the

high degree of homogeneity of the estimates for various urban areas and for the rural Phuoc Tuy province suggests that peace-time regional demographic differentials must have been moderate in Viet Nam, at least among the Vietnamese when the latter term is used in the ethnic sense. This group amounts to some 90 per cent of the total population, hence it determines the fundamental demographic characteristics -- among these, the rate of population growth -- for the country as a whole. On the basis of the foregoing analysis, it appears that the rate of natural increase in the late 1950's must have been about 3.0 or 3.1 per cent per year. Such growth appears to result from a birth rate of about 48 per 1000 and a death rate of 17 or 18 per 1000 per year. How sharply these estimates contrast to the official figures should be obvious from the table below:

	Birth rate	Death rate	Rate of natural increase
Estimated in present study:	48	17	31
Official figures:			
Vital Statistics			
1959	31.0	6.6	24.4
1961	25.6	5.7	19.9
1962	23.4	5.1	18.3
1963	26.6	5.8	20.8
1964	29.4	6.0	23.4
Vital Statistics, Special Study			
1962	25.4	5.3	20.1
1963	32.1	7.8	24.3

It should be noted that the official vital rates shown have been computed for gradually decreasing areas. This explains why

the rates show no uniform declining tendency despite the declining aggregate numbers of births and deaths that were registered. Obviously the completeness of registration in provinces which have dropped out from the registration area was apt to be especially low.

As was pointed out before, errors in the official statistics with respect to birth rates and death rates go in the same direction; hence to some extent, they compensate each other. Accordingly, the contrast between officially reported and estimated growth rates is less sharp than the contrast between reported and estimated birth and death rates. However, the outlook on growth potential differs sharply depending on which figures are accepted. The estimate derived in this paper shows not only a higher rate of growth than does the official rate but also suggests, in contrast to the official figure, that there remains a wide scope for the achievement of even higher growth rates. In fact, should peace conditions be re-established in Viet Nam, simple and inexpensive public health measures could easily cut the death rate by as much as 40 or 50 per cent within a relatively short time period. The rate of population growth in that event could well approximate, or even reach, the 4 per cent per year level.

8.0 CONCLUSIONS

The discussion in this report has focused on the basic features of the demographic situation of the Republic of Viet Nam as they emerge from a study of the currently available raw statistical

material. While there is always scope for further study of the data as they exist today, familiarity with this material indicates that returns on further studies are bound to be sharply diminishing. The major conclusion derived from the preceding analysis is that new data are needed if a fuller picture of Viet Nam's demographic position is to be drawn.

Two main approaches may be followed to collect such new data;

(a) Improvement of the existing system; for practical purposes improvement of the coverage of vital registration. It can be shown conclusively that this approach is impracticable, costly, time consuming, and incapable of furnishing some types of data that are of the kind most urgently needed.

(b) Organization of relatively small scale sample surveys designed to collect data that are tailored to accommodate recently developed techniques of analysis and estimation. In comparison to the former approach this approach is flexible, inexpensive, and is capable of producing rapid results.

A discussion of the optimal contents of such surveys under the present Vietnamese circumstances and the uses of the data to be collected is contained in Section Two of this report. As a general proposition one must caution, however, against any attempt to orient such surveys towards serving narrowly defined short-term data requirements. To provide a proper perspective for answering even the most practical questions the primary need is for the establishment of basic population parameters as far as demographic questions are concerned. For instance, a knowledge of the current level of fertility and infant mortality in all likelihood constitutes a more important input for predicting the absolute increase of the Vietnamese population in the next five years than a knowledge of the precise number of war-connected casualties. It can be anticipated

that demand for basic demographic data will be generated on an increasing scale as various pacification programs get into higher gear. Yet such demand obviously cannot be satisfied now and will not be satisfiable in the foreseeable future unless steps are taken to secure and develop new sources of statistical information concerning the demographic characteristics of the Vietnamese population.

SECTION TWO
ADDITIONAL DATA COLLECTION

INTRODUCTION

This is a plan for obtaining additional data needed to determine population trends in Viet Nam by means of a sample survey. Previous work conducted by the Simulmatics Corporation under Contract No. DA 49-092-ARO-146 emphasized locating, obtaining, and appraising available data and data sources. During a briefing of the Project Monitor on 22 December 1966, a decision was reached to prepare a questionnaire and a survey design to provide necessary data, since the utility of data now available is limited.

There are no feasible alternatives to obtaining the necessary data except by a demographic survey, because:

(a) No population census has ever been taken in South Viet Nam nor is there any prospect of one within a reasonable time.

(b) The existing vital registration system provides only fragmentary and grossly deficient demographic data, and there are no short-term prospects that this system will be significantly improved.

OBJECTIVES OF THE SURVEY

The minimum objectives, incorporated in the attached questionnaire, are;

(1) Determination of basic demographic parameters for various significant sub-populations in South Viet Nam: estimates of the level of fertility, mortality, and population growth for the present and the recent past.

(2) Determination of the structure of the population with respect to various demographic criteria: estimates of the composition of the population by age, sex, family units, households, etc.

(3) Establishment of differentials with respect to socio-economic factors: race, migrational status, occupation, education, literacy, etc.

(4) Prediction of future demographic trends in South Viet Nam.

ASPECTS OF THE SAMPLING APPROACH

Questions asked in this kind of survey are more thorough than is feasible in a census or in vital statistics, and permit a wider range of information to be collected. The increased quantity of direct information obtained, and the greater detail resulting, permits detection and correction of systematic biases. Analytical techniques for exploiting the data obtained by this type of survey are relatively recent developments; since the questions are often indirect and contain considerable redundancy, they not only permit cross-checking, but can produce information on various subjects where the questions, taken in isolation, are not meaningful.

Other important advantages of this approach are: lower cost, flexibility, and better utilization of personnel. The cost per information-unit is low because only a small percentage of the total population need be questioned. Although we are proposing a single-point survey, the design of the questionnaire yields flow-type information. A single interview provides information about past conditions which can be utilized in determining trends applicable to the future. Flexibility comes from designating appropriate

population strata, and varying the sampling ratios within such strata. This will be discussed under "Sampling Design," but it should be noted that no other approach permits effective coverage of the population with the existing limitations of sample size, and limited accessibility of substantial segments of the population. Finally, since qualified Vietnamese interviewers are available in limited numbers, a relatively small-scale operation, such as we are proposing enables us to concentrate their efforts so as to collect data of a better quality. In this connection, Simulmatics' work on other Vietnamese projects has afforded considerable background experience in training interviewers, supervising their work, and editing, coding and processing the results.

SAMPLING DESIGN

The survey we are proposing does not have to be conducted simultaneously in all locations chosen. Unlike a census, the data base can be built in increments. It is therefore recommended that an initial survey be conducted in Saigon-Cholon. Trends determined by the initial survey cannot be applied to Viet Nam as a whole, but are useful in themselves for planning by United States and Vietnamese government agencies.

It would be appropriate, and extremely desirable, if the survey could be a joint venture under the aegis of the National Institute of Statistics. Since the Institute compiles and publishes the bulk of statistics used by the Vietnamese government, and is part of the Department of National Economy, it is our impression (based on conversations with the Director last summer) that cooperation

would be readily extended, although the Institute would not conduct the survey. Somewhat limited population surveys have been carried out by this agency in Saigon, Cantho, Dalat, Hue and Nhatrang. However, the resulting mortality tables for Saigon-Cholon are dated 1958-1959, and do not reflect the recent phenomenal growth of the capital.

More useful than those previous surveys for our purposes in developing sampling frames are the samples used recently by the Center for Vietnamese Studies, in conducting opinion surveys for JUSPAO. We intend to enlist the assistance of Center's Director, Mr. Phon-Anh, and some of his staff in the final specification of households to be sampled.

A second stratum to be sampled could consist of the cities, other than Saigon, mentioned above. Rough population estimates and city maps do exist for these places, simplifying the constuction of sampling frames. The procedure involves selection of districts, blocks, houses, and finally, individual households for our sample.

The third stratum would consist of rural communities in the various regions. Under present conditions, security considerations must take precedence in selecting villages and hamlets, over the requirement for strict conformity to probabilistic selection criteria. Nevertheless, judicious selection of representative sampling points would provide information of great value. Our knowledge of the demography of South Viet Nam would be enhanced, for example, by a survey of the stratum represented by four "typical" villages in the Delta region to an extent greater than the sum total of such knowledge accumulated in the past.

Our tentative plan, which must be fully developed in Viet Nam, would be to limit our sampling points to four in each of the four Corps areas for all strata mentioned above, weighting the sample sizes to provide a useful representation of the entire population. For Saigon alone, it has been suggested that 800 households would be sufficient. Final determination of the scaling for the remaining strata would be part of the tasks discussed below.

Work Plan

The initial tasks prior to conducting the survey itself are putting the questionnaire and the sample design into final form. The questionnaire must be modified after consultation with Vietnamese social scientists, including those from the National Institute of Statistics and the Center for Vietnamese Studies. Local experience is essential in determining the best phrasing and ordering of questions. Indirect approaches may be necessary to determine which deaths resulted from combat-connected activities, for example.

Once the content and language of the questionnaire is determined, the format would be reviewed so that where feasible, preliminary coding is facilitated by the way the interview document is filled in, thereby reducing subsequent coding and editing. A small-scale pilot survey would then be conducted to test the workability of the survey instrument. Close evaluation of the experience gained by these trials should minimize misunderstanding of questions by respondents, disclose difficult or sensitive questions, provide a good estimate of the average time needed to conduct an interview, and reveal editing or decoding difficulties which might be

encountered in processing completed interviews.

Concurrently with completing the survey instrument, the sample design and sample size would be fully developed. In addition to the Vietnamese organizations mentioned, it would be desirable that United States agencies, such as JUSPAO and AID, be asked for their coordination and inputs through the Advanced Research Projects Agency's Field Unit in Saigon. While these tasks were being completed, the staffing, training and pilot survey would be done with the interview team.

While the actual interviews were in progress, the editing and coding would begin. Editing here means checking the completed forms for inconsistency, errors, indications of incorrect or incomplete conduct of the interview, and other faults. Spot-checks and re-interviews by supervisory personnel would also be conducted in a small number of randomly-selected cases, to check on discrepancies. Then coding sheets would be prepared from the data in the questionnaires, so that the answers would be shown in numerical codes.

When the survey (or a major phase, such as the survey of Saigon) is completed, the coding sheets would be sent to the United States for processing and tabulating of results, using standard statistical techniques and utilizing electronic data processing equipment and programs. The final tasks, also to be performed in the United States, would be analysis and evaluation of the results, and preparation of the final report.

The description of tasks involved is the basis for our estimate of time required for this work. The first phase is performance of tasks which precede the actual survey; the second covers the tasks during the conduct of the survey; and the third phase includes tasks in the last paragraph which follow the interviews. Each phase could be completed in three months, for a total of nine months from the time the survey is authorized.

CONTRACT MODIFICATION

The time allotted to completion of the present contract would have to be extended as indicated above. Present funding appears adequate for performance of a reasonably-sized survey. When the final sample design is completed, it may be necessary to adjust the funding to conform to the scope of work which the Project Monitor approves.

VIETNAM DEMOGRAPHIC SURVEY

GENERAL PLAN AND CONTENTS

The proposed general plan and contents of the Vietnam Demographic Survey (VDS) are implicit in the attached draft questionnaire. However, the basic strategy underlying that schedule may be usefully summarized as follows:

1. The sampling procedure (discussed previously) results in the selection of a well-specified list of households (dwelling units) which constitute the Household Sample.

2. Each interviewer receives his (her) assignment in terms of a list of households to be contacted.

3. A household is defined as a group of persons (habitually or currently) occupying the same dwelling unit and having at least one daily meal together. (Note that the presence of a married couple, or of children, or of family bonds among the members, is not part of the definition.)

4. Interviewer visits the assigned dwelling units in sequence. If unit is unoccupied (empty) a substitution procedure is followed in the manner prescribed by the sampling design.

If dwelling unit is occupied but no one is at home, or if no competent adult person is at home, a record of the call is established and a second call at some appropriate time is arranged. Calls are repeated until a successful interview is completed or

until refusal. Refusals to cooperate are recorded. No substitutions for refusals are made.

6. If there is one or more adult person at home at the time of the call, who is willing to cooperate, interviewer fills out the Household Record Form. Questions should be directed to the senior household member present: presence of the head of the family (household) is not necessary.

7. The Household Record Form consists of three parts. In Part A information concerning each member of the household is recorded. Part B is a record of births (if any) that have occurred in the household during the 24 month period preceding the interview. Part C is a record of deaths (if any) that occurred in the household during the same period. Data concerning each person, each birth, and each death is recorded on a separate line in Parts A, B, and C of the Household Record Form.

8. When the household interview is completed interviewer determines from Part A of the Household Record Form whether there are any currently married female members in the household, born between 1916 and 1952 (inclusive). Any such woman automatically becomes part of a second, separate sample -- Sample of Married Women of Childbearing Age -- is eligible for a separate interview, and should be interviewed.

9. If the household interview was conducted through an eligible married woman the interview may continue by simply switching to the second questionnaire, which focuses on fertility and may be referred to for brevity as Fertility Interview. If the Household Interview was conducted with somebody else, but an eligible woman is present, upon completion of the Household Interview, interviewer may turn to the latter person and conduct the Fertility Interview.

10. Alternatively (e.g. in case an eligible woman is not at home, or occupied, etc.) a second call is arranged for the conduct of the Fertility Interview(s). Calls are repeated until all eligible women in the household have been interviewed, or until refusal of cooperation. Substitution of an eligible woman not in the household, and interviewing by proxy, are not permissible.

NOTES CONCERNING DRAFT QUESTIONNAIRES

(1) Opening remarks. Interviewers would be thoroughly trained how best to approach members of the selected households. However, reminders of the suggested openings, etc. should probably be printed on the questionnaire itself. ("Good morning. My name is-----. I am here on behalf of the public health survey, conducted under the auspices of the Ministry of Health, etc.")

Similarly, further modifications of the questions towards a conversational and polite (yet unambiguous) form should be carefully considered.

(2) Year and month. (Such as in birth dates, etc.) Questions and forms should be re-cast to take into consideration the Chinese calendar. Conversion to Western terms should be done probably only at the stage of coding-editing.

(3) "Race, religion, language". Questions on these important characteristics are merely indicated in the draft as a topic, not spelled out in detail. Further study and local consultation on the best approach is necessary. As usual the two main considerations to take into account are: (a) What would be the best criteria if only one could get them? (b) What is feasible to get without arousing hostility, non-responses, deliberate distortions, etc. Similar sensitivity might be encountered in questions relating to place of birth or causes of death, particularly when the latter is used to determine if death was connected to the Vietnamese conflict.

(4) Absentees. Unless there is good reason to fear that the quality of answers to other questions would be adversely affected, it would be desirable to ask questions about members of the household who are (temporarily) absent. These are also potentially sensitive questions, since the number of "draft-dodgers" in Saigon itself is estimated in the tens of thousands.

(5) Place of residence in October 1963. This question is suggested merely as an indication of the type of question needed on this score. Namely it would be most important to get some information on recent internal migration, and its correlates. This can be done with reference to a past event that is universally remembered, as well as serves our purpose. ("Where were you at Pearl Harbor?" would not do, not only because it would ring no bells for the average Vietnamese, but also because it is too far back in time.) Possible alternatives: "Where were you residing at Independence, at Dien Bien Phu's fall, etc. Where were you one year (or two years, or five years) ago would be good in principle but provides easy excuse for incorrect answer and evasion. The degree of sensitivity to this question (in whatever form) should be investigated.

A P P E N D I X

VIETNAM DEMOGRAPHIC SURVEY

FERTILITY INTERVIEW

((Bookkeeping, identification and control items))

1. Identification.

Serial no. of fertility interview schedule ------

Serial no. of household interview schedule ------

Locality------ Sample no.------ Block no.------ Address ----------

2. ((Interview record))

APPENDIX

Call no.

	1	2	3	4	
Date of call					
Interview Started					
Interview completed					
Total time					
Outcome of call *					
If interview incomplete: appointment for next call					
Name of interviewer					

*Outcome code:
1 Interview completed
2 Partially completed; appointment made tc complete the rest
3 Appointment made for interview
4 Refusal to cooperate
5 Not at home
6 Other (specify)-------

3. Name of respondent----------

Year of birth of respondent ----------

4. Edited by---------Date---------
Checked by---------Date---------

(INTERVIEWER: PROCEED WITH QUESTION B1)

B1. We have already asked some questions about your household. Now we would like to learn a bit more about you, personally. Can you tell me in what year you married your husband? Can you tell me what month it was? (ENTER ANSWER BELOW)

--------YEAR --------MONTH

B2. Could I ask you again your date of birth? (ENTER ANSWER BELOW)

--------YEAR --------MONTH

B3. How old was your husband when he married you? (ENTER ANSWER BELOW)

-------YEARS OLD

B4. How many living sisters do you have? And how many living brothers? (ENTER ANSWER BELOW)

-------SISTERS -------BROTHERS

B5. Have you lost any sisters or brothers since you got married? Specifically, can you tell me how many of them were living when you married your husband? (ENTER ANSWER BELOW)

-------SISTERS -------BROTHERS

B6. How many living sisters and brothers does your husband have now? (ENTER ANSWER BELOW)

-------SISTERS -------BROTHERS

B7. And how many living sisters and brothers did your husband have when he married you? (ENTER ANSWER BELOW)

-------SISTERS -------BROTHERS

B8. Is your mother alive? (CHECK ONE, AS APPROPRIATE)

☐ YES NO ☐

B9. Is your father alive? (CHECK ONE, AS APPROPRIATE)

☐ YES NO ☐

B10. Is your father-in-law alive? (CHECK ONE, AS APPROPRIATE)

☐ YES NO ☐

B11. Is your mother-in-law alive? (CHECK ONE, AS APPROPRIATE)

☐ YES NO ☐

B12. Have you been married before this marriage? (CHECK ONE)

YES ☐ NO ☐

If YES: ASK B13 and B14 IF NO: SKIP TO B15

B13. How many times have you been married before? (CHECK ONE)

☐ ONCE ☐ MORE THAN TWICE: SPECIFY -----

☐ TWICE

B14. How old were you when you first married? And how long did that marriage last? (ENTER ANSWERS BELOW. ASK SAME QUESTIONS FOR SECOND, THIRD,.... PREVIOUS MARRIAGE IF MARRIED MORE THAN TWICE. DO NOT ENTER CURRENT MARRIAGE HERE.)

NO. OF PREVIOUS MARR.	AGE AT MARRIAGE (YRS)	DURATION OF MARR (YRS)
1		
2, etc.		

B15. Have you ever been pregnant? (CHECK ONE)

YES ☐ NO ☐

IF YES: PROCEED TO QUESTION B16 IF NO: SKIP TO QUESTION B32

B16. Please tell me about all the pregnancies you have had, and what their outcome was. Include all pregnancies, even if you did not have a live baby as a result.

(INTERVIEWER: FILL OUT PREGNANCY RECORD FORM, ASKING ABOUT FIRST, SECOND.... ETC. PREGNANCIES. DO NOT NUMBER PREGNANCIES FIRST. LEAVE SPACE BETWEEN ENTRIES: USE EVERY THIRD LINE ON FORM)

B17. Did you have a live birth as a result of this (INDICATE NUMBER) pregnancy? (CHECK COL. 2 OR COL. 3 ON PREGNANCY RECORD FORM AS APPROPRIATE)

YES ☐ NO ☐

IF YES ASK IF NO: SKIP TO B24

B18. Was it a boy or a girl? Can you tell me the name of the baby? (ENTER ANSWER IN COL. 1 IN PRF. CHECK COL. 5 OR COL. 6 AS APPROPRIATE)

B19. What was the date of birth? (ASK YEAR AND MONTH. ENTER IN COL. 4)

B20. Is this child still alive? (CHECK COL. 7 OR COL. 8 AS APPROPRIATE)

YES ☐ NO ☐

IF YES: ASK IF NO: ASK

B21. Does he (she) live with you now or does he (she) live apart? (CHECK COL. 9 OR COL. 10 IN PRF, AS APPROPRIATE)

B22. How old was he (she) when he (she) died? (ASK AGE IN MONTH IF DIED AT AGE LESS THAN 24 MONTH OLD. ASK AGE IN YEARS OTHERWISE. ENTER IN COL. 11 OR COL. 12 IN PRF AS APPROP.)

B23. Did you have any other pregnancies?

YES ☐ NO ☐

IF YES: RETURN TO QUESTION B.17, ETC.

IF NO: SKIP TO B27

B24. Was it a stillbirth, a miscarriage, or did you have an abortion? (CHECK COL. 14, OR 15, OR 16, AS APPROPRIATE.)

B25. In what year was this? (ENTER ANSWER IN COL. 13 IN PRF)

B26. Did you have any other pregnancies?

YES ☐ NO ☐

IF YES: RETURN TO QUESTION B17, ETC.

IF NO: SKIP TO B27

B27. (INTERVIEWER: GO OVER PREGNANCY RECORD FORM. IF ALL REPORTED PREGNANCIES END IN LIVE BIRTHS -- I.E. THERE IS NO CHECKMARK IN COL. 3 -- ASK QUESTION B28 etc. IF SOME PREGNANCIES ENDED IN NON-LIVE BIRTH ASK QUESTION B31, etc.)

B28. Some women after becoming pregnant have stillbirths, miscarriages or abortions. Have you had any experience like this?

YES ☐ NO ☐

IF YES: ASK

IF NO: SKIP TO B32

B29. In what year was this? (ASCERTAIN ORDER OF PREGNANCY AND ENTER YEAR IN COL. 13 ACCORDINGLY.)

B30. Was it a stillbirth, a miscarriage or an abortion? (CHECK COL. 14, 15, or 16, AS APPROPRIATE)

PROBE: Any other? IF ANSWER IS YES, REPEAT B29 and B30 AS NECESSARY.

B31. You mentioned you had a ------- (REFER TO REPORTED STILLBIRTHS, MISCARRIAGES, OR ABORTIONS.) Did you have any others than these?

YES ☐ NO ☐

IF YES: ASK: B29 and B30 IF NO: SKIP TO B32

B32. (INTERVIEWER: GO OVER THE PREGNANCY RECORD. CHECK BELOW AS APPROPRIATE:) DO NOT SEEK HIGH DEGREE OF PRECISION HERE. WHEN IN DOUBT, CHECK "YES" CHOICE.)

HAS THERE BEEN AN INTERVAL OF TWO YEARS OR MORE BETWEEN:

TWO CONSECUTIVE PREGNANCIES, AS REPORTED	YES ☐	NO ☐
THE LAST REPORTED PREGNANCY AND INTERVIEW	YES ☐	NO ☐
MARRIAGE AND FIRST PREGNANCY (IF MARRIED ONLY ONCE)	YES ☐	NO ☐
MARRIAGE AND INTERVIEW (IF NO PREGNANCY WAS REPORTED)	YES ☐	NO ☐

IF YOU HAVE CHECKED ONE OR MORE INTERVAL AS "YES" ASK QUESTION B33, etc. OTHERWISE GO TO QUESTION B 35

B33. There was quite a long period without pregnancy (SAY AS APPROPRIATE:)
/ between your ----th pregnancies /
/ since your last pregnancy /
/ before your first pregnancy /
/ since your marriage /
Did we miss any that occurred during this period?

YES ☐

IF YES: ASK ALL RELEVANT QUESTIONS ABOUT MISSED PREGNANCY AND ENTER ANSWERS INTO PRF. PROBE: Any other? SPECIFICALLY ASK FOR EACH LONG INTERVAL.

NO ☐

IF NO: ASK
B34 Can you tell me why you did not become pregnant for such a long period (periods)? (SPECIFY INTERVAL(S). SUGGEST ANSWER IF NECESSARY CHECK AS APPROPRIATE

	1st intvl.	2nd intvl
HUSBAND AWAY	☐	☐
USED BIRTH CONTROL	☐	☐
OTHER (SPECIFY)----	------	------
DON'T KNOW	☐	☐

B35. Are you pregnant now, or not? (CHECK BELOW, AS APPROPRIATE)

☐ YES
IF YES: ASK

☐ NO
☐ UNCERTAIN, DON'T KNOW
☐ NO RESPONSE

IF OTHER THAN "YES" SKIP TO B37

B36. In which month do you expect the baby? (ENTER ANSWER BELOW)

IN----------

B37. Has there ever been a period of three months or more in your marriage when you and your husband have been apart?

YES ☐ NO ☐ NO RESPONSE ☐

IF YES: ASK
B38. How long have you been apart? (DISCOVER LENGTH OF EACH LONG SEPERATION.)

1st. separation-----months
2nd. " -----months
3rd. " -----months

IF NO, OR NO RESPONSE SKIP TO B39

B39. Can you read? Can you read for example a letter?

YES ☐ NO ☐

B40. Can your husband read? For example, can he read a newspaper?

YES ☐ NO ☐

B41. Can you tell me how many years of school have you completed?

NONE ☐ ☐ OTHER (SPECIFY: --------YEARS)

B42. How many years of school did you husband complete?

NONE ☐ ☐ OTHER (SPECIFY: --------YEARS)

B43. Where were you born?

SAME LOCALITY
OTHER LOCALITY, SAME PROVINCE
OUTSIDE THE PROVINCE: (SPECIFY:---------LOCALITY--------PROVINCE OR COUNTRY

B44. Where was your husband born?

SAME LOCALITY
OTHER LOCALITY, SAME PROVINCE
OUTSIDE THE PROVINCE (SPECIFY:----------LOCALITY-------PROVINCE OR COUNTRY

B45. Can you tell me where you were living in October, 1963, (SEE NOTE*)

SAME LOCALITY
OTHER LOCALITY, SAME PROVINCE
OUTSIDE THE PROVINCE (SPECIFY:----------LOCALITY-------PROVINCE OR COUNTRY

B46. Since you were married, have you ever worked for pay?

☐ YES ☐ NO

IF YES: ASK IF NO: SKIP TO B51

B47. What kind of work was it? (IF VARIOUS KINDS, ASK ABOUT JOB THAT WAS MOST IMPORTANT, IN TERMS OF EARNINGS)

SPECIFY: ----------

B.48 Did you do this work at home, or outside of home?

☐ AT HOME ☐ OUTSIDE OF HOME

B.49 Are you working now or have stopped working?

☐ STILL WORKING ☐ HAVE STOPPED WORKING

B.50 Since your marriage about how long did you work for pay?

SPECIFY: --------YEARS ----------MONTHS

B51. What is your husband's usual occupation? What kind of work does he do?

FARMER (GROWS CROPS OR RAISES LIVESTOCK) — OTHER (SPECIFY)--------

IF FARMER: ASK

B52. How many hectars of land do you or your husband own together?

SPECIFY: ------HA.

B53. How many hectars of land do you or your husband rent together?

SPECIFY: -------HA.

SKIP TO B59

IF OTHER: ASK

B54. Is your husband self-employed or is he working for someone else?

☐ SELF-EMPLOYED

☐ WORKING FOR SOMEONE ELSE

IF SELF-EMPLOYED: SKIP TO B59
IF WORKING FOR SOMEONE ELSE ASK:

B55. Is he working for a relative or someone else?

☐ FOR RELATIVE ☐ FOR SOMEONE ELSE

B56. Is he employed now?

☐ YES ☐ NO

IF YES: SKIP TO B59 IF NO: ASK B57 and B58

B57. How long has he been out of work?

SPECIFY:---------MONTHS

B58. Has he been looking for work this month? ☐ YES ☐ NO

B59. QUESTIONS ABOUT RACE, LANGUAGE, RELIGION. * SEE NOTE

RESPONDENT'S

RESPONDENT'S HUSBAND'S

(INTERVIEWER: INTERVIEW IS NOW COMPLETED. SAY: Thank you very much for your time and cooperation.

(INTERVIEWER: COMPLETE INTERVIEW RECORD:)

1. FILL IN THE APPROPRIATE ITEMS ON PAGE 1 OF FERTILITY INTERVIEW

2. CHECK ONE: COOPERATION WAS
☐ VERY GOOD
☐ GOOD
☐ POOR
☐ NOT GOOD AT ALL

3. CHECK ONE: RELIABILITY OF ANSWERS APPEARS TO BE
☐ VERY GOOD
☐ GOOD
☐ POOR
☐ VERY POOR

PREGNANCY RECORD FORM

(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
No. of pregnancy (Name of child if any)	Outcome of pregnancy		If outcome of pregnancy was live birth									
			Date of birth		SEX		Survival		if survives		If deceased, age at death	
	Live birth	Non-live birth	YR	MO	M	F	Survives	Deceased	Lives with mother	Lives apart	if less than 24 months old (in months)	IF 24 months old or over (in years)
1												
2												
3	ETC.											

CONTINUED:

(13)	(14)	(15)	(16)
If non-live birth			
Year of loss	OUTCOME WAS Still birth	Miscarriage	Abortion

etc.

VIETNAM DEMOGRAPHIC SURVEY

HOUSEHOLD INTERVIEW

((Bookkeeping, identification and control items))

1. Identification.

Serial no. of household interview schedule ----------

Locality ---------

Sample no. ---------- Block no. -------- Address ----------

2. ((Interview record))

Call no.

	1	2	3	4	
Date of call					
Interview started					
Interview completed					
Total time					
Outcome of call*					
If interview incomplete: appointment for next call					
Name of interviewer					

*Outcome code:
1 Interview completed
2 Partially completed; appointment made to complete the rest
3 Appointment made for interview
4 Refusal to cooperate
5 No one at home
6 No eligible respondent at home
7 Other (specify) ----------

3. ((Cross reference to Fertility Interviews)) (Interviewer: fill in at the end of Household Interview)

No. of eligible women in the household ----------

Serial numbers of Fertility Interview Form(s) -------,-------,-------,

4. Edited by---------- Date -- -- --
Checked by --------- Date ----------

HOUSEHOLD INTERVIEW

((Instructions for interviewer concerning introduction and opening remarks))
HOUSEHOLD RECORD FORM, PART A see note

(INTERVIEWER: PROCEED WITH QUESTION A1)

A1. First of all we would like to know how many people live in this household and how they are related to the head of the household. Please tell me what their name is. (INTER ITEMS IN HOUSEHOLD RECORD FORM --HRF-- COLS. 1 AND 2.)

(FOR EACH PERSON LISTED ASK)

A2. What is his (her) ---- (race, religion, language) *see note (ENTER IN COL. 3 of HRF)

A3. (INTERVIEWER: ASCERTAIN SEX BY ASKING IF IN DOUBT. CHECK APPROPRIATE COL. IN HRF)

A4. When was he (she) born? (ASK YEAR AND MONTH (*see note) ENTER IN COL. 6 an 7 IN HRF

(INTERVIEWER: CHECK COL 5 AND 6 IN HRF AND FROM EACH FEMALE BORN IN OR BEFORE 1952 ASK QUESTION A5)

A5. Did she ever have a child? (even if she no longer has one)

YES ☐ NO ☐

IF YES ASK A6 THROUGH A9 IF NO SKIP QUESTIONS A6 THROUGH A9 ENTER 0's IN COLS. 8-11 IN HRF

(INTERVIEWER: IN QUESTION A6 AND A7 INCLUDE ALL SONS OR DAUGHTERS REGARDLESS OF CURRENT AGE AND PLACE OF RESIDENCE. I.E. INCLUDE GROWN UP CHILDREN EVEN IF THEY LIVE OUTSIDE OF THE HOUSEHOLD. ENTER ANSWERS IN COLS. 8 AND 9 IN HRF)

A6. How many living sons does ---------- have now?

A7. How many living daughters does ---------- have now?

A8. How many sons did ----- have who have died? Please include all deaths regardless of age. For example include sons who died as very young babies.

(INTERVIEWER: ADD NUMBER REPORTED IN A8 TO FIGURE ENTERED IN COL. 8 TO GET NO OF SONS EVER BORN TO_____. CHECK THE VALIDITY OF THIS FIGURE BY ASKING A9)

A9. So ----- had ----- sons altogether in her life?

A10. How many daughters did ----- have who have died? Again, please include all deaths, regardless of age at death. Include deaths of daughters died as babies

(INTERVIEWER: FOLLOW SAME PROCEDURE AS WITH SONS. ADD ANSWER TO A10 TO ENTRY IN COL. 9 AND ASK ALL)

A11. SO ------ had ------ daughters altogether in her life?

(IF ANSWER IS YES, ENTER FIGURE IN COL. 11. IF ANSWER IS NO, PROBE FURTHER BY RE-CHECKING ANSWER TO A7 AND A9. CORRECT ENTRY TO COL. 9 IF NECESSARY. ENTER FINAL CONSISTENT FIGURE IN COL. 11)

(INTERVIEWER: FOR EACH PERSON LISTED ASK)

A12. Where was -----born? (IF NECESSARY:) In what province?

(ENTER PROVINCE OF BIRTH IN COL. 12 IF BORN IN VIETNAM. IF BORN OUTSIDE VIETNAM, ENTER COUNTRY OF BIRTH. *SEE NOTE)

(INTERVIEWER: FOR EACH PERSON BORN BEFORE OCTOBER 1963 -- REFER TO COLS. 6 AND 7 -- ASK)

A13. Where was ----- living in October 1963, at the time of -----? See note.

(ENTER ANSWER IN COL. 13)

(INTERVIEWER: FOR EACH PERSON LISTED ASK)

A14. What is ------'s marital status? (IF NECESSARY, PROBE) Is ------- single, married, divorced or legally separated, or widowed?

(ENTER ANSWER IN COL. 14)

(INTERVIEWER: IF HOUSEHOLD INCLUDES PERSONS OTHER THAN HEAD OF HOUSEHOLD, WIFE, AND CHILDREN ASK)

A15. Are there any people in this household who are here only temporarily?

YES ☐ (IF YES, ASK A16, A17 and A18)

NO ☐ (IF NO SKIP QUESTIONS A16, A17 AND A18)

A16. Which ones? (PUT A CHECKMARK IN COL. 15)

A17. How long has he (she) been here? (ENTER ANSWER IN COL. 16)

A18. How long is he (she) going to stay? (ENTER ANSWER IN COL. 17

(INTERVIEWER: GO THROUGH COLS. 5, 6, and 14 OF THE HRF AND PUT A CHECKMARK INTO COL. 18 FOR EVERY MARRIED WOMAN BORN BETWEEN 1916 and 1952. THEN PROCEED TO COMPLETE PARTS B AND C OF THE HOUSEHOLD INTERVIEW.)

HOUSEHOLD RECORD FORM PART B.

A19. Have there been any births to any women in this household during the past 24 months?

(ALL BIRTHS THAT OCCURRED TO WOMEN IN THE HOUSEHOLD DURING THE 24 MONTHS-PERIOD THAT PRECEDED THE INTERVIEW--INCLUDING STILL BIRTHS AND BIRTHS OF CHILDREN WHO HAVE SINCE DIED--SHOULD BE REPORTED. IF THERE WAS A BIRTH TO A WOMAN WHO LIVED IN THE HOUSEHOLD BUT WHO HAS SINCE DIED THAT SHOULD BE REPORTED TOO, PROVIDED IT OCCURRED DURING THE 24 MONTHS SPECIFIED.)

☐ YES

(IF YES PROCEED WITH INTERVIEW)

☐ NO

IF NO PROCEED TO ASK QUESTIONS RE PART C OF HOUSEHOLD RECORD FORM)

A20. Who had the baby and what name was given to the child?

(ENTER ANSWERS IN COL. 1 and 2 IN RECORD OF BIRTHS. PROBE: Any other during the past 24 months? ENTER ALL BIRTHS IN FORM. ORDER OF ENTRIES IS NOT IMPORTANT.)

(INTERVIEWER: FOR EACH BIRTH ENTERED ASK)

A21. In what year and month did this birth occur?

(ENTER ANSWER IN COLS. 3 AND 4)

A22. Was it a boy or a girl?

(ENTER ANSWER IN COLS. 5 or 6. (CHECK AS APPROPRIATE)

A23. Was it a live birth?

(CHECK COL. 7 or COL. 8 AS APPROPRIATE)

A24. Where was the baby delivered?

A25. Who assisted at the delivery?

(CODE ANSWERS TO A24 AND A25 AS FOLLOWS:
1 AT HOME, ASSISTED BY DOCTOR
2 AT HOME, ASSISTED BY MIDWIFE
3 AT HOME, NO DOCTOR OR MIDWIFE ASSISTED
4 HOSPITAL OR CLINIC
5 DOCTOR'S OFFICE
6 OTHER (SPECIFY) ENTER CODE IN COL.9)

A26. Is the child still alive? (CHECK COL. 10 OR COL. 11, AS APPROPRIATE)

YES ☐ (SKIP A27) NO ☐ (ASK A27)

A27. When did the baby die? (YEAR AND MONTH)

(ENTER DATE OF DEATH IN COLS. 12 AND 13)

A28. Was the birth registered?

(CHECK COL. 14 OR COL. 15, AS APPROPRIATE.)

HOUSEHOLD RECORD FORM PART C.

A29. In the past 24 months did anyone who was a member of this household die?

(ALL DEATHS TO MEMBERS OF THE HOUSEHOLD--REGARDLESS WHERE DEATH OCCURED--SHOULD BE INCLUDED. DO NOT INCLUDE STILL-BIRTHS BUT DO INCLUDE DEATHS OF ALL ADULTS AND CHILDREN, INCLUDING DEATH OF BABIES REPORTED IN PART B OF HOUSEHOLD INTERVIEW.)

YES ☐ (IF YES PROCEED WITH INTERVIEW)

NO ☐ (IF NO PROBE: IF "NO" IS REPEATED GO TO END OF HOUSEHOLD INTERVIEW)

A30. What was the name of the person?

(ENTER NAME IN COL. 1 IN RECORD OF DEATHS AND CHECK THE APPROPRIATE COLUMN -- COL. 2 OR COL. 3-- FOR SEX. ASCERTAIN SEX BY DIRECT QUESTION IF IN DOUBT. PROBE. Any other during the past 24 months? ENTER ALL DEATHS IN FORM. ORDER OF ENTRIES IS NOT IMPORTANT)

(INTERVIEWER: FOR EACH DEATH ENTERED ASK)

A31. In what year and month did this death occur?

(ENTER ANSWER IN COLS. 4 and 5)

A32. Was this person 24 month old or less?

(CHECK COL. 6 OR COL. 7 AS APPROPRIATE)

YES ☐ (IF YES ASK A33)

NO ☐ (IF NO ASK A34)

A33. Exactly what was his (her) age when he (she) died? (IN MONTHS)

(ENTER ANSWER IN COL. 8. ASK A35)

A34. Exactly what was his (her) age when he (she died? (IN YEARS)

(ENTER ANSWER IN COL. 9.)

A35. Was this death registered?

(CHECK COL. 10 OR COL. 11, AS APPROPRIATE)

END OF HOUSEHOLD INTERVIEW

(INTERVIEWER: THE HOUSEHOLD INTERVIEW IS NOW COMPLETED)

(IF THERE ARE NO ELIGIBLE WOMEN IN THE HOUSEHOLD--I.E. NO CHECKMARKS IN COL. 18 OF THE HOUSEHOLD RECORD FORM, PART A,--SAY)

Thank you very much for your time and cooperation. Good bye.

(IF THERE ARE ELIGIBLE WOMEN--I.E. WOMEN MARRIED, BORN BETWEEN 1916 and 1952, AS INDICATED BY CHECKMARKS IN COL. 18 OF THE HOUSEHOLD RECORD FORM, PART A-- SAY)

Thank you very much. We asked all the questions about your household we want. Now there are some more questions we would like to ask from------, and------, and ------ (NAME ALL ELIGIBLE WOMEN. ARRANGE TIME FOR INTERVIEW IF NONE OF THESE IS PRESENT. IF AT LEAST ONE OF THE WOMEN IS PRESENT ASK) Is this a good time for this or shall we arrange some other time convenient for you? (PROCEED WITH FERTILITY INTERVIEW OR NOTE DOWN APPOINTMENT IN FIRST PAGE OF FERTILITY INTERVIEW FORM AND LEAVE, DEPENDING ON ANSWER.)

(INTERVIEWER: COMPLETE INTERVIEW RECORD:)

1. CIRCLE NAME OF PERSON WITH WHOM HOUSEHOLD INTERVIEW WAS CONDUCTED ON THE HRF. PART A, COL. 7.

2. CHECK ONE: COOPERATION WAS
   - VERY GOOD ☐
   - GOOD ☐
   - POOR ☐
   - NOT GOOD AT ALL ☐

3. CHECK ONE: RELIABILITY OF ANSWERS APPEARS TO BE
   - VERY GOOD ☐
   - GOOD ☐
   - POOR ☐
   - VERY POOR ☐

4. FILL IN THE APPROPRIATE ITEMS IN 2. and 3. ON PAGE 1 OF HOUSEHOLD INTERVIEW BOOKLET.

HOUSEHOLD RECORD FORM
Part A

No.	(1) Name	(2) Relationship to head of household	(3) Race Religion Language *see note	(4) Sex M	(5) Sex F	(6) Birthdate Yr.	(7) Birthdate M.* *see note	(8) If female born in or before 1952: No. of living sons	(9) No. of living daughters	(10) No. of ever born sons	(11) No. of ever born daughters	(12) Place of birth
1		head of hh										
2												
3												
etc.												

(13) Place of residence in 1962* *see note	(14) Marital Status Code: 1 single 2 married 3 divorced or separated 4 widowed	(15) Temporary Resident (check if yes)	(16) If check in col. 15: How long has been here?	(17) If check in col. 15: How long will stay?	(18) Eligibility for fertility interview (check if female, married, and born between 1916 and 1952)	Record of Absentees* *see note

HOUSEHOLD RECORD FORM

Part B

(RECORD OF BIRTHS)

No.	(1) Name of Mother	(2) Name of child (if any)	(3) Birthdate Yr.	(4) Mo.	(5) Sex of child M	(6) F	(7) Check one Live birth	(8) Still birth	(9) Place of Delivery (code)	(10) Check one Child sur-vives	(11) Child is dead	(12) If dead date of death Yr.	(13) Mo.	(14) Check one Registered Yes	(15) No
1															
2															
3															
etc.															

Part C

(RECORD OF DEATHS)

No.	(1) Name of deceased	(2) Sex M	(3) F	(4) Birthdate Yr.	(5) Mo.	(6) Age at death (check one) 24 mo. or less	(7) More than 24 mo.	(8) If age at death was 24 mo. or less Age at death in months	(9) If age at death was more than 24 mo. Age at death in years	(10) Check one Registered Yes	(11) No
1											
2											
3											
etc.											

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
The Simulmatics Corp.
16 E. 41st Street
New York, N.Y. 10017

2a. REPORT SECURITY CLASSIFICATION
UNCLASSIFIED

2b. GROUP
N/A

3. REPORT TITLE
A POPULATION STUDY IN VIET NAM (U)

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
FINAL REPORT (6 April 1966 - 7 April 1967)

5. AUTHOR(S) (First name, middle initial, last name)
Prof. Paul G. Demeny (principal author)
Lt. Col. Jules D. Yates

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
31 Mar. 1967	68	NONE

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
DA 49-092-ARO-146	SIM/CAM/10/67
b. PROJECT NO. ARPA Orders 861/1002	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
c.	N/A
d.	

10. DISTRIBUTION STATEMENT

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
N/A	ADVANCED RESEARCH PROJECTS AGENCY

13. ABSTRACT

A final report dealing with a survey of population data available on Viet Nam and the conclusions tentatively derived from these. Gross estimates of population size are made; the composition of the population (one feature is the similarity of rural and urban areas); mortality figures, which are evaluated critically (some regional differences emerge); fertility (very high, with little differentiation between rural and urban birth rates); and population growth Section Two is a detailed outline of a plan for a demographic survey to obtain additional necessary population data. Objectives include determination of basic demographic parameters, determination of the structure of the population, establishment of differentials with respect to socio-economic factors and prediction of future demographic trends. A sampling approach design and a general plan with sample questionnaires for a household interview and fertility interview are presented.

DD FORM 1473 Replaces DD form 1473, 1 Jan. 64, which is obsolete for Army use.
1 NOV. 65

UNCLASSIFIED

Security Classification

KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
POPULATION STUDY						
DEMOGRAPHY						
VIET NAM						
FERTILITY						
MORTALITY						
BIRTH RATE						